

## ABSTRACT OF THE DISCLOSURE

[0060] A tuning circuit uses a VCO with a trimming capacitor bank. The trimming capacitor bank is calibrated by logic to accommodate a desired frequency,  $f_{\text{wanted}}$ . A search renders an initial control word that is accurate within one LSB. In a first embodiment, comparisons between the desired frequency and the upper and lower frequency bounds of the VCO with the trimming capacitor bank configured by the initial control word. The control word may be increased or decreased based on the comparisons. In a second embodiment, differences between the desired frequency and the actual frequency of the VCO, with the trimming capacitor bank configured by the initial control word, are compared to a threshold. The control word may be increased or decreased based on the comparison.